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**“जानने का अधिकार, जीने का अधिकार”**

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

**“पुराने को छोड़ नये के तरफ”**

Jawaharlal Nehru

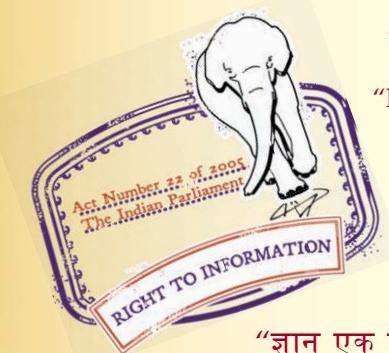
“Step Out From the Old to the New”

IS 10652 (1983): Pedal Assembly for Mopeds [TED 2:  
Automotive Primemovers]

**“ज्ञान से एक नये भारत का निर्माण”**

Satyanaaran Gangaram Pitroda

“Invent a New India Using Knowledge”



**“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”**

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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Indian Standard

## SPECIFICATION FOR PEDAL ASSEMBLY FOR MOPEDS

**1. Scope** — Covers the requirements for pedal assembly suitable for mopeds.

### 2. Material

**2.1** The components of the pedal assembly such as balls, ball race, spindle, etc, shall conform to the various Indian Standards specifications given below:

Balls	IS : 2898-1976	'Steel balls for rolling bearings ( <i>first revision</i> )'
Ball race, Cap, Washers	IS : 513-1973	'Cold rolled carbon steel sheets ( <i>second revision</i> )' or
	IS : 226-1975	'Structural steel (standard quality) ( <i>fifth revision</i> )'
Spindle	IS : 1570-1961	'Schedules for wrought steels for general engineering purposes'
Spindle cone, Nut	IS : 226-1975	'Structural steel (standard quality) ( <i>fifth revision</i> )'
Tube	IS : 3074-1979	'Steel tubes for automotive purposes ( <i>first revision</i> )'
Pedal (PVC)	IS : 9766-1981	'Flexible PVC compound'

**2.2** The material for pedal rubber if of natural rubber [REDACTED] shall contain suitable anti-oxidants to prevent surface cracks. The shore hardness of pedal rubber shall vary from 60 to 70.

**2.3** Components of the pedal assembly which are subjected to friction, such as ball races, cone and spindle shall have a minimum hardness of 600 HV (with 5 kgf load) on the wearing surfaces. The pedal rubber shall have uniform colour and be free from foreign matters.

**3. Shape and Dimensions** — A typical pedal assembly is shown in Fig. 1. The pedal spindle shall conform to the dimensions given in Fig. 2. Other components shall be made to suit the spindle size. The length of the spindle shall be as agreed to between the purchaser and the manufacturer.

### 4. Finish

**4.1** All steel components shall be suitably protected against corrosion either by chemical treatment or zinc plated to service condition No. 2 (classification No. FeZn 12) of IS : 1573-1970 'Specification for electroplated coatings of zinc on iron and steel (*first revision*)', or nickel chrome plated to service grade No. 1 (classification No. S Ni10b Cr r) of IS : 1068-1968 'Specification for electroplated coatings of nickel and chromium on iron and steel (*first revision*)'.

### 5. General Requirement

**5.1** The pedal assembly when finished shall be able to rotate freely on the spindle. The steel balls shall be lubricated with grease conforming to IS : 507-1980 'Specification for general purpose grease (*second revision*)'. The nut, where not self-locking, shall be punched to lock properly after tightening to a torque of 10 Nm.

**5.2** Provision shall be made on the surface of the pedal rubber for effective holding. Serrated or chequered patterns shall be followed for this purpose.

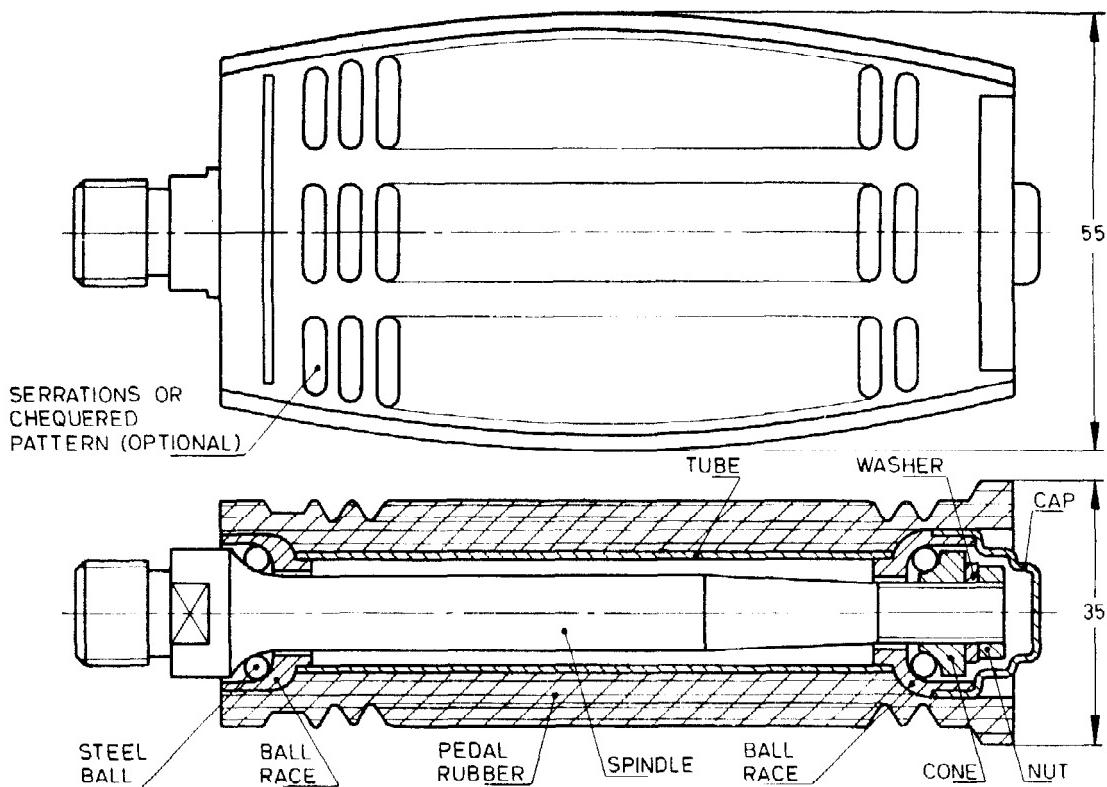
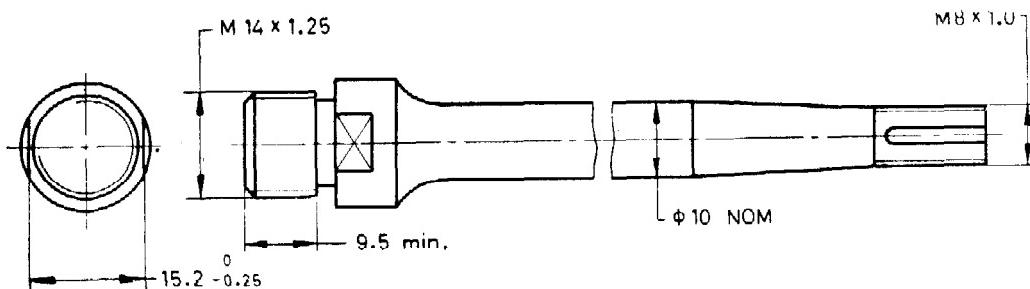


FIG. 1 PEDAL ASSEMBLY



RH Thread for RH Side and LH Thread for LH Side Pedals

NOTE — LH Pedal shall either be stamped 'LH' or suitably knurled.

All dimensions in millimetres.

FIG. 2 PEDAL SPINDLE

## 6. Tests

**6.1** The spindle shall be subjected to a load test in the manner illustrated in Fig. 3. A load of 800 N shall be applied gradually and shall remain for a period of one minute. When released the deflection (permanent set) on the spindle shall not be more than 3 mm, without showing any sign of cracks.

In case the length of the spindle does not permit the load application as given in the figure, the load may be suitably modified for achieving the bending moment and deflection as specified.

**6.2** The assembled pedals are subjected to the following:

- Static load test, and
- Kinetic test

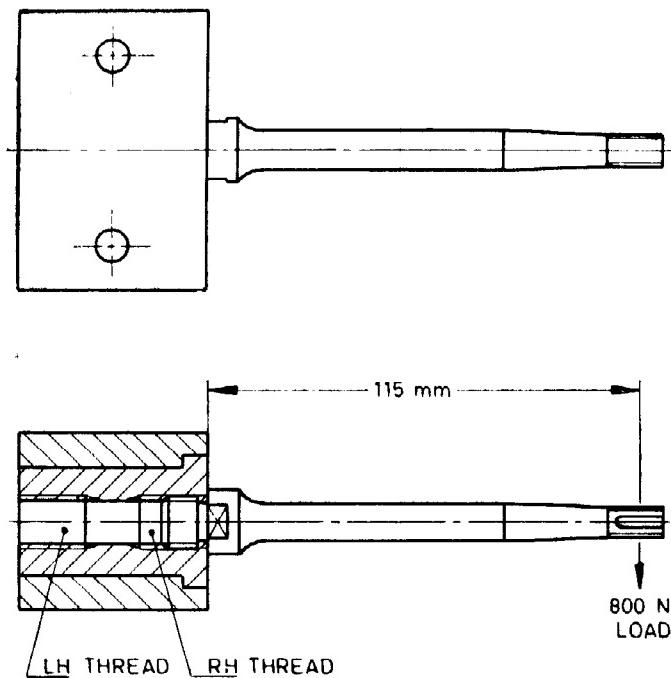


FIG. 3 LOAD TEST

**6.2.1 Static load test** — The test is carried out by assembling the pedal to a rigid fixture and applying a vertical load of 150 kg at the centre of the pedal without shock for a period of 5 minutes. The pedal shall not show any failure and the maximum permanent deflection shall not exceed 2.5 mm.

**6.2.2 Kinetic test (Dynamic test)** — The test is carried out with a pair of pedals assembled to a test shaft and suspending a total mass of 50 kg from each pedal by means of a spring to minimise oscillation of the load. The shaft is driven at approximately one hundred revolutions per minute for 100 000 cycles. The pedal axle and other components shall not show any failure at the end of the test.

**7. Marking** — The pedal assembly shall bear the manufacturer's name, initials or trade-mark. The pedal assembly shall also carry suitable identification mark for left hand threads as indicated in Fig. 2.

**7.1 ISI Certification Marking** — Details available with the Indian Standards Institution.

**8. Packing** — The pedal assembly shall be packed as per best prevalent trade practice.

**9. Sampling** — Unless otherwise agreed to between a purchaser and a manufacturer, the sampling scheme shall be as per IS : 2500 (Part 1) - 1973 'Sampling inspection tables : Part 1 Inspection by attributes and by count of defects (first revision)'.